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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,003	12/28/2001	Masayuki Segawa	041094-5015	4446

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EXAMINER

PATEL, VIP

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/937,003

Applicant(s)
Segawa et al

Examiner
Vip Patel

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2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 18, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 6) ☐ Other:

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Response to Amendment

In response to the applicant's amendment received on 3-18-03, the changes requested by the applicant to the specification and claims have been entered.

Claim Rejections - 35 USC § 112

Claim 2 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, the applicant claims specific amount of Rh, Pt, Ru, and Ir. It is not clear at all as to what exactly applicant is excluding or including with usage of "or" "and" in the claim.

Regarding claim 2, claim 2 is informal (see rejection of claim 2 under 35 USC 112, second paragraph above) that no meaningful examination on the merits of the claim can be undertaken at this time. See MPEP 702.01

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamura (US 5488262).

Regarding claims 1 and 4, Takamura discloses a sparkplug (figure 6) comprising a center electrode (25) having a basic body and a first tip (40), a ground electrode (30) having a base, an inter layer (41), and a second tip (40). The first and second tip are made of Ir (line 62 of column 4). A thermal expansion coefficient of the inter layer is between the a thermal expansion coefficient of the base and the second tip (line 44 of column 3). As per claim 4, a whole surface of the inter layer is covered by the second tip (see figure 6).

Takamura does not specifically teach as to how body and tip are joined (ie by laser welding). Here, the applicant is claiming the product (a device) including a method (i.e. a process). Therefore, claim is a "product-by-process" claim. In spite of the fact that a product-by-process claim may recite only process limitations, it is the product which is covered by the claim and not the recited process. Further, patentability of a claim to a product does not rest merely on a difference in the method by which the product is made. Rather, it the product itself which must be new and unobvious. As such, no patentable weight has been given to the process recited in claim 1 (see MPEP 2113).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kagawa (JP 402242577A).

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Kagawa discloses a sparkplug (figure 2) comprising a center electrode (3) having a basic body and a first tip (4), a ground electrode (5) having a base (8), an inter layer (7), and a second tip (4'). The first and second tip are made of Ir (see abstract). A thermal expansion coefficient of the inter layer is between the a thermal expansion coefficient of the base and the second tip (see abstract).

Kagawa does not specifically teach as to how body and tip are joined (ie by laser welding). Here, the applicant is claiming the product (a device) including a method (i.e. a process). Therefore, claim is a "product-by-process" claim. In spite of the fact that a product-by-process claim may recite only process limitations, it is the product which is covered by the claim and not the recited process. Further, patentability of a claim to a product does not rest merely on a difference in the method by which the product is made. Rather, it the product itself which must be new and unobvious. As such, no patentable weight has been given to the process recited in claim 1 (see MPEP 2113).

Claims 3, 5-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamura (US 5488262) or Kagawa (JP 402242577A) and common knowledge in the art as evidenced by JP 5-101869 (4-1993) .

Regarding claim 3, Takamura or Kagawa discloses all the limitations of claim 3 except a specific thermal expansion coefficient for the interlayer. However Takamura or Kagawa have specifically taught the interlayer having the thermal expansion

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coefficient between that of materials of a tip and base material. It has been ruled that finding an optimum range within such given range is routine and within ordinary skill in the art. Thus, it would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to obtain such thermal expansion coefficient for the devices of Takamura or Kagawa.

Regarding claims 5-8, Takamura or Kagawa discloses all the limitations except a thermal conduction core in the ground electrode. However, such thermal conduction core is notoriously known in the art of sparkplug for passing heat down/away from a tip region. JP 5-101869 (4-1993) evidences such common knowledge of thermal conduction core for the purpose applicant proposes. Thus, it would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to provide a known thermal conduction core for the devices of Takamura or Kagawa for passing heat down/away from a tip region.

Regarding claim 10, the limitations of how interlayer and tip are joined (ie electric resistance welding) are directed to the process of making the sparkplug and thus not deemed positive product limitation. Accordingly, no patentable weight has been given to such limitation (see MPEP 2113).

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Remarks

Applicant's arguments have been fully considered but they are not deemed to be persuasive for the following reasons. Applicant argues that Takamura or Kagawa does not specifically teach as to how body and tip are joined (ie by laser welding).

Here, the applicant is claiming as to how the product (a device) is made. Therefore, claim is a "product-by-process" claim. In spite of the fact that a product-by-process claim may recite only process limitations, it is the product which is covered by the claim and not the recited process. Further, patentability of a claim to a product does not rest merely on a difference in the method by which the product is made. Rather, it is the product itself which must be new and unobvious. As such, no patentable weight has been given to the process recited in claim 1 (see MPEP 2113).

Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vip Patel whose telephone number is (703) 305-4846. The examiner can normally be reached on Monday-Thursday from 6:30 AM- 5:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4900.



**VIP PATEL
PRIMARY EXAMINER
ART UNIT 2879**